Doc Code: AP.PRE.REQ

PTO/SB/33 (07-05)
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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

on _____

Signature _____

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Application Number	Filed
10/634,595	August 4, 2003

First Named Inventor: Steven H. Schwartzkopf

Art Unit	Examiner
1724	Hruskoci, Peter A

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☒ attorney or agent of record. Registration number 47,003.
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

Jennifer P. Yancy
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(703) 415-1500
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12/5/05
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of 1 forms are submitted.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re: Steven H. Schwartzkopf

Application No.:10/634,595 Group Art Unit: 1724

Filed: 08/04/2003 Examiner: Hruskoci, Peter A.

For: LIQUID FILTRATION APPARATUS AND METHOD EMBODYING SUPER-BUOYANT FILTRATION PARTICLES

REASONS FOR PRE-APPEAL BRIEF REQUEST FOR REVIEW

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is filed in response to the Final Office Action bearing a mail date of August 3, 2005, and is being submitted as part of a Pre-Appeal Brief Request for Review.

Claims 1-3, 6, 7, 9, 10 and 21-36 are pending in the present application.

Independent claim 1 and 21are discussed in detail in applicant's response dated June 1, 2005 and applicant's response after final dated November 1, 2005 (with attached declaration), reconsideration of which is solicited:

Again reviewing claim 1 and 21:

1. In a process liquid filtration apparatus embodying a filter bed for removing particulates from a process liquid having a predetermined specific gravity, a filter bed comprised of super-buoyant particles having a specific gravity lower than one half of the predetermined specific gravity of the process liquid, said super-buoyant particles are selected to be a specific size within the range of 0.1 micron and 1.0 mm.

21. A liquid filtration apparatus for removing particulates from a process liquid having a predetermined specific gravity, comprising:

a) a source of said particulate laden process liquid;

b) a filter chamber having an inlet port for receiving said particulate laden process liquid and an outlet port for discharging filtered process liquid therefrom;

c) a composite filter bed within said filter chamber formed by distinct super-buoyant filter particles having a specific gravity lower than one half that of the said predetermined specific gravity of said process liquid, said super-buoyant filter particles are selected to be a specific size within the range of 0.1 micron and 1.0 mm;

d) means for conveying particulate laden process liquid into said filter chamber from said source thereof for passage through said composite super-buoyant filter bed for separation of said particulates from said process liquid and discharge of filtered process liquid through said outlet port of said filter chamber; and

e) means communicating with said outlet port for conveying said filtered process liquid away from said filter chamber for re-use as a non-contaminated process liquid.

While allowable subject matter was indicated, independent claims 1 and 21, and the other claims depending therefrom are believed to be in condition for allowance, subject to the filing of a terminal disclaimer.

Claims 1-3, 7, 9, 21-23, 25 and 36 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Iwatani 4,198,301. The Examiner has indicated that the "specific particles size...would have been an obvious matter of engineering design to one skilled in the art depending on the specific liquid filtered and results desired, absent a sufficient showing of unexpected results." Applicant submits the following reasons for overcoming this rejection.

1. The Examiner has not located *any* prior art which discloses super-buoyant filter particles having a specific gravity lower than one half that of the process liquid and a specific size within the range of 0.1 micron and 1.0 mm.

The Iwatani reference cited by the Examiner mentions the use of filter medium having a specific gravity of 0.015 to 0.2 (see column 3, lines 22-26). But, the Iwatani reference does not mention any size for these particles. The Applicant submits that it is known to use super-buoyant particles having a larger size as taught in Hsiung (U.S. Patent 4,608,181). Specifically, the Hsiung reference discloses particles having a size from 1.5 and 20 mm (see column 4, lines 59-65). As discussed by the Applicant, because of the design of the system in Iwatani, one of ordinary skill in the art would expect the particles in Iwatani to be the same size as the particles disclosed in Hsiung (see Response date June 1, 2005, page 11, lines 18-21).

2. Applicant asserts that one of ordinary skill in the art would not be motivated by the disclosure in Iwatani to use particles within the size range claimed.

As discussed in Applicant's response dated June 1, 2005, the small particles claimed by the Applicant have a tendency to clump together when used as filter particles because the contaminants fill the interstices between the filter particles. (See Response date June 1, 2005, page 9, line 17-20). Because of the high surface area of the small particles, the contaminants that fill the interstices act like a glue which causes the particles to adhere to one another and form clumps that result in the formation of non-homogenous filter beds; an undesirable condition that can only be remedied by the novel backwash system used by Applicant. (see Response dated June 1, 2005, page 12, lines 4-7). None of the prior art cited appreciates this problem associated with the use of very small-diameter buoyant filter media as claimed by Applicant. Additionally, none of the prior art suggests a motivation for using particles of the size claimed by the

Application. Surprisingly, Applicant has been able to make an effective filtration system that uses small particles, as claimed. Without any guidance in the prior art, one of ordinary skill in the art would not be motivated to use the small particles as claimed.

> "Although applicant is working within broad field encompassed by prior patent and although it might be possible to end up with a product similar to applicant's by selecting specific items and conditions in a patent, a long experimental program might be required to arrive at such product in absence of some direction or reasons for making such selection; applicant is entitled to patent protection for his highly specific and limited contribution within patent's general disclosure since patent had no appreciation of such contribution," Ex part Kuhn, 132 U.S.P.Q. 359 (P.O. Bd. App. 1961).

3. Applicant has submitted evidence that the system disclosed in Iwatani would not work using filter particles of the size claimed in the present application.

In the Response to Office Action After Final submitted by the Applicant on November 1, 2005, Applicant submitted a Declaration under 37 CFR 1.132 asserting that the siphon breakers required in the Iwatani filter system would become clogged and malfunction using particles of the size claimed in the present application. After an extensive search, Dr. Schwartzkopf was only able to locate descriptions of systems using siphon breakers that had an opening of ¼ inch or greater (see Declaration dated November 1, 2005). If the openings in the siphon breaker used in the Iwatani patent are larger than the size of the filter particles, the filter particles would be lost during operation of the filtration system. This would result in a system that was non-operational. Therefore, one of ordinary skill in the art would expect the buoyant filter particles in Iwatani to be at least ¼ inch in diameter.

Applicant also asserts that it is inappropriate for the Examiner to look at the appearance of the relative size of the filter particles when determining whether the Iwatani reference teaches the instantly claimed invention. (See Response dated November 1, 2005 page 2, paragraph 3).

Furthermore, Applicant asserts that the Iwatani patent actually supports floating filter media that are larger in diameter than the adsorbent material. The Iwatani reference (column 5, lines 4-14) states that the "upward streams of water meet with resistance from the layer B of adsorbent material 11". One of ordinary skill in the art would recognize that this means that the absorbent material must have a significantly smaller diameter than the floating filter medium. (see Response dated November 1, page 3, Section 2.)

In view of the foregoing, the present application is now believed to be in condition for allowance. The Examiner is asked to consider entering this, withdrawing the final rejection and passing the application to allowance. Further and favorable consideration is requested.

It is not believed that extension of time or fees are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR 1.136(a), and any fee required therefore is hereby authorized to be charged to Deposit Account No. 10-1213.

Should the Examiner have any questions, he is requested to contact the undersigned.

Respectfully submitted,

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Dated: 12/5/2005

By: Jennifer P. Yancy
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